

**REMARKS**

Claims 1-19, 21-25, 27-30, 33-36 and 38 are pending.

By virtue of this response, Claims 1, 19, 22, 23 and 38 are amended, Claims 21 and 33-36 are cancelled, and new claims 39 and 40 are introduced.

Therefore, Claims 1-19, 22-25, 27-30 and 38-40 are presently pending.

Amendment and cancellation of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented.

No new matter is added.

**Claim Rejection under 35 U.S.C § 102(a) of Claims 1, 2, 18, 23 and 38**

On page 2 of the Office Action, Claims 1, 2, 18, 23 and 38 are rejected under 35 USC § 102(a) as being anticipated by Telefonaktiebolaget LM Ericsson (Pub. No: WO2004/016012 A1) ("Ericsson"). Applicants are traversing this rejection.

**Claim Rejection under 35 U.S.C § 103(a) of Claim 14**

On page 6 of the Office Action, Claim 14 is rejected under 35 USC § 103(a) as being unpatentable over Ericsson in view of Cooper (U.S. Pub. No. 2006/0194582 A1). Applicants are traversing this rejection.

Claims 3-6, 8-13, 15-17, 24-25, 27-30 and 35-36 are rejected under 35 USC § 103(a) as being unpatentable over Ericsson in view of 3GPP TS25.346 V6.0.0 (2004-03) ("3GPP"). Applicants are traversing the rejection of claims 3-6, 8-13, 15-17, 24-25, 27-30. Claims 35-36 have been cancelled.

Claims 19 and 21-22 are rejected under 35 USC § 103(a) as being unpatentable over Ericsson in view of Jung et al. (U.S. Pub. No. 2005/0213541). Applicants are traversing the rejection of claims 19 and 22. Claim 21 has been cancelled.

Claim 7 is rejected under 35 USC § 103(a) as being unpatentable over Ericsson in view of Jung et al. (U.S. Pub. No. 2005/0213541) and further in view of 3GPP TS 25.346 V6.0.0 (2004-03) ("3GPP"). Applicants are traversing this rejection.

Claims 33-34 are rejected under 35 USC § 103(a) as being unpatentable over Ranta-Aho et al. (U.S. Pub. No. 2004/0081125 A1) in view of Ericsson. Claims 33-34 have been cancelled.

**Claim Rejection under 35 U.S.C § 102(b) of Claims 1, 2, 18, 23 and 38.**

The application presently contains five independent claims, namely Claims 1, 19, 22, 23 and 38.

Many of the independent claims have been amended to clarify that the invention provides a point to multipoint multicast service, under specific circumstances. Claim 1, for example, now specifies:

[I]nitiating a point to multipoint multicast service in the first cell when the first cell is listed in the list of at least one neighbouring cell and a point to multipoint multicast service is in use in the second cell [and] otherwise using a point to point multicast service in the second cell.

Independent claim 19 now specifies:

[I]nitiating the multicast service in a cell when the second count for the cell is not zero, wherein initiating the multicast service in a cell when the second counter for the cell is not zero includes:

- (i) initiating a point-to-point multicast service in the cell when a sum of the first count and second count is less than a threshold number; [and] otherwise
- (ii) initiating a point-to-multipoint multicast service in the cell.

Independent claim 22 now specifies:

[F]or each cell of the group of cells, accumulating a first count of the user messages having the cell included in the list of the at least one neighbouring cell;  
for each cell of the group of cells, initiating the multicast service in the cell when the first count for the cell is not zero;  
wherein initiating the multicast service in a cell when the first count for the cell is not zero includes:  
initiating a point-to-point multicast service in the cell when the first count is less than a threshold number; otherwise  
initiating a point-to-multipoint multicast service in the cell.

And independent claim 38 now specifies:

[R]eceiving a user message transmitted by the user equipment positioned in the first cell; and  
in response to the user message, initiating the point to multipoint multicast service in only the group of cells neighbouring the first cell.

These changes are well supported by the specification. The examiner's attention is directed particularly to paragraphs [0028] and [0049], and claims 20-22 of the application as originally filed. The examiner's attention is also directed to paragraphs [0006], [0007] and [0027], for an explanation of the point to multipoint multicast service.

The provision of a point to multipoint multicast service in accordance with the invention may provide a user equipment with the opportunity of combining signals from two or more base stations in two or more cells. Once again, the examiner's attention is directed to the application, particularly paragraphs [0029]-[0041]. Two corresponding potential advantages, higher quality of service and lower power usage, are discussed in paragraph [0037]. A potential advantage for continuity of multicast service for a mobile moving between cells is explained in paragraph [0038].

Turning now to Ericsson, it is clear that Ericsson considers a different issue to that of the present invention. Ericsson has the twin aims of minimizing the number of 'service areas'

in which a broadcast service is provided, and minimizing the signaling overhead on the network. See paragraph [0005] and the first two sentences in paragraph [0017] of Ericsson. See also paragraph [0012] of Ericsson.

The solution chosen in Ericsson is to define a zone 14, which comprises two or more service areas 10. See figure 1 of Ericsson. At least one service area 10 is a 'controlling' service area for the zone. See paragraph [0009] of Ericsson. A service area may correspond to a cell of a cellular network. According to Ericsson, if a mobile subscriber in the 'controlling' area 10 of a zone 14 requires a broadcast service, then *all* the service areas in that zone receive the broadcast. Throughout most of Ericsson, the zones and controlling areas are predefined and do not vary. A system of registration flags acts to withdraw the broadcast service from services areas in which it is no longer needed, thereby minimizing the resources needed to broadcast.

Paragraphs [0049]-[0053] of Ericsson describe a situation where the zones are not fixed. In addition, the broadcast signal may be a multicast service. As stated in paragraph [0049], the zones may be shaped 'dynamically'. Paragraph [0054] suggests initiating a broadcast service only in service areas that belong to the active set of a particular mobile station. The active set may be those service areas from which the particular mobile could receive a useable signal strength. Paragraph [0052] suggests a default zone, comprising all the neighbours of a particular zone.

The arrangement of Ericsson, in the variant with dynamic zones or the default zone described in the preceeding paragraph, arranges for a broadcast signal that may be a multicast service. However, Ericsson does *not* decide between a point to multipoint multicast signal and a point to point multicast signal, as specified for example in Claims 1 and 23. The choice of a point to point multicast signal offers a further reduction in possible resource use, including power consumption.

Accordingly, we note with all due respect that Ericsson fails to describe each and all of the limitations of these independent claims and hence cannot be fairly held to anticipate these claims.

### **Rejections under 35 U.S.C. 103**

For many of the remaining rejections under 35 U.S.C. 103(a), the Examiner seeks to introduce combinations that rely upon Jung. For example, point 8 of the Office Action from pages 14-16 discusses a combination of Jung with Ericsson.

Jung describes a system where user equipment may receive either a point to multipoint multicast service or a point to point multicast service. See in particular paragraphs [0026] to [0029] of Jung.

Jung more particularly describes a decision between using either a point to multipoint multicast service or a point to point multicast service. This decision is based on the result of a count. The final sentence of paragraph [0026] of Jung makes clear that the count is of *'the number of terminals...within a particular cell'*. The restriction to the particular cell is repeated in paragraph [0028] (see the phrase *'corresponding cell'* in line 8 of paragraph [0028]).

It is clear that the arrangement of Jung evaluates whether there are enough users in a cell to justify use of a point to multipoint multicast service in that cell. There is no suggestion, however, of basing this decision for a particular cell on the number of users in *other* cells that might benefit from the availability of a point to multipoint multicast signal in the particular cell as per the claims of the present application. The arrangement of Jung also does not address the problem of allowing a user equipment to employ signal combining, or consider the advantages that may be achieved by implementing such a system.

The examiner rejected former claims 21 and 22 based on Ericsson in view of Jung. Combining the teaching of these prior art documents, however, does not lead to the claimed arrangements. Assuming that we start from the arrangement of Jung, it is important to note

that Jung lays out a decision about whether to use a point to multipoint or a point to point multicast service based on the number of users in a particular cell. Other cells are not of relevance to this decision when employing Jung's teachings. Combining Ericsson with this teaching would lead to a system in which a decision regarding 'controlling' service area 10 either to use a point to multipoint multicast service or a point to point multicast service would result in the chosen type of service being used in the remainder of the service areas 10 in a zone. Such a system would not be efficient, since it would result in a type of service that is appropriate to the number of users in the controlling cell being applied to the remaining service areas, whether or not it is appropriate to them.

If the skilled artisan were to begin instead with Ericsson (i.e., the arrangement described at Ericsson's paragraphs [0052] or [0054]), however, there is no clear use for Jung's decision step in either of the arrangements of Ericsson. Once the decision had been made in Ericsson to start a broadcast service in service areas 10 of a network, it would be possible to then choose either a point to multipoint multicast service or a point to point multicast service in each service area of the network, based on the number of subscriber stations in each service area. However, this does not correspond to the arrangement of the claims.

In conclusion, combining Ericsson with Jung does not lead to the claimed arrangement, even were such a combination an obvious step.

*The dependent claims*

Claims 2-18, 24, 25, 27-30, and 38-40 are ultimately dependent upon one of the independent claims shown above to be allowable. While the applicant believes that other arguments are available to highlight the allowable subject matter presented in various ones of these dependent claims, the applicant also believes that the comments set forth herein regarding allowability of the independent claims are sufficiently compelling to warrant present exclusion of such additional points for the sake of brevity and expedited consideration.

For at least these reasons, the prior art references, alone or combined, do not teach or suggest all the claim limitations for the claims on file. Accordingly, Applicant respectfully requests reconsideration and allowance of Claims 1-19, 22-25, 27-30 and 38-40.

**CONCLUSION**

The case is believed to be in condition for allowance and notice to such effect is respectfully requested. If the Examiner should have any other points of concern, the Examiner is expressly invited to contact the undersigned by telephone to discuss those concerns and to seek an amicable resolution.

Respectfully submitted,

FITCH, EVEN, TABIN & FLANNERY

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